

## GROUNDWATER INDEX

Page 1 of 1

County Franklin Twp. 154 Rge. 10

[illegible]

File No. ....

T. 18 R. 2-E

DUPLICATE

County Cascade

STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
OFFICE OF STATE ENGINEER

RECEIVED  
JAN 1 1964  
STATE ENGINEER

## Notice of Completion of Groundwater Appropriation Without Well

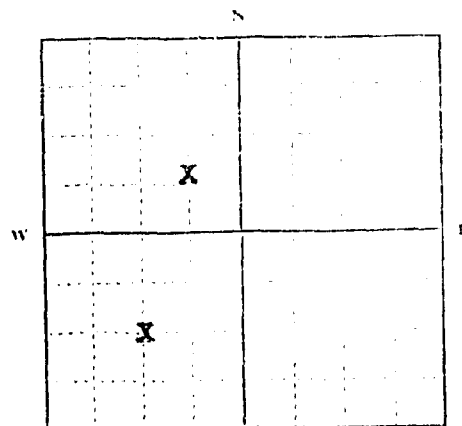
(Under Chapter 237 Montana Session Laws, 1961)

Date of Appropriation of Groundwater.....

Owner Angus Ferguson Address CascadeContractor (if any) NoneAddress of Contractor None

Date Started..... Date Completed.....

Describe means of obtaining groundwater without a well "as by  
sub-irrigation and other natural processes". Include depth to  
water when applicable. Natural flow



SE-NW  $\frac{1}{4}$  S4 T18 R 2E  
SW-SW  $\frac{1}{4}$  Sec. 4 T. 18 R. 2E

Indicate point of appropriation  
and place of use, if possible.

Quantity of water developed and used with explanation of method  
used to measure or estimate such amount. If use is intermittent

estimate approximate lengths of periods of use 10 gal.per min. year around use3 gal. per min. year around useSignature of Owner Angus FergusonDate December 30, 1963

This form to be prepared by contractor (if any), otherwise by the owner.

Three copies of this notice are to be filed with the County Clerk and Recorder of the county in which the works are located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology and Quadruplicate for the Appropriator.

3954

STATE OF MONTANA, } ss.  
County of Cascade.

I hereby certify that the within in-  
strument was filed in this office on

DEC 30 1908

Date

at 10:19 o'clock AM

J. E. LENNON

County Clerk and Recorder

By [Signature]  
Deputy.

File No. \_\_\_\_\_

DUPLICATE

18 2E

County Cascade

STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
OFFICE OF STATE ENGINEER

**Notice of Completion of Groundwater Appropriation  
Without Well**

(Under Chapter 237 Montana Session Laws, 1961)

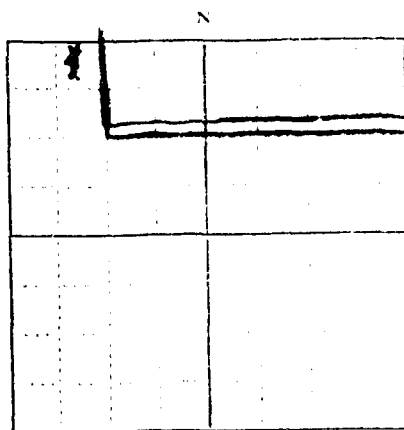
Date of Appropriation of Groundwater 1932

Owner A B Simpson Address Cascade

Contractor (if any) None

Address of Contractor None

Date Started 1932 Date Completed 1932



Describe means of obtaining groundwater without a well "as by sub-irrigation and other natural processes". Include depth to water when applicable. a natural running spring

Quantity of water developed and used with explanation of method used to measure or estimate such amount. If use is intermittent

estimate approximate lengths of periods of use 1 1/2 gallons  
minute; used gallon can for  
measure and doubled amount  
spring used 6 months a year

1/4 Sec 5 T 18 R 2E  
Indicate point of appropriation  
and place of use, if possible.

Signature of Owner A B Simpson

Date Dec 31 1962

This form to be prepared by contractor (if any), otherwise by the owner.

Three copies of this notice are to be filed with the County Clerk and Recorder of the county in which the works are located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology and Quadruplicate for the Appropriator.

28309

4320

RECORDED \_\_\_\_\_ 1932  
TIME 11:01 a  
DOCUMENT NO. \_\_\_\_\_

J. L. LENNON  
CLERK AND RECORDER  
CASCADE COUNTY, MONTANA

*J. L. Lennon*  
DEPUTY

File No.

DUPLICATE

T. 17 R. 2 E

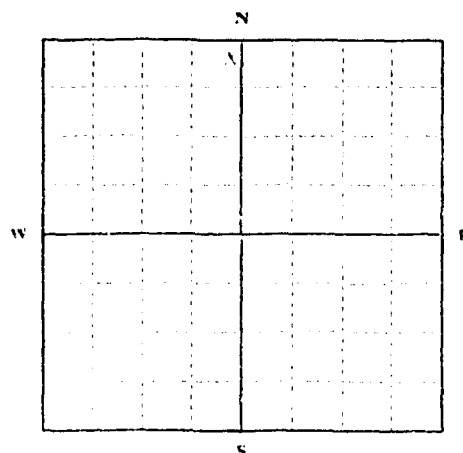
County Cascade

STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
OFFICE OF STATE ENGINEER

RECEIVED  
DEC 17 1963

Declaration of Vested Groundwater Rights  
(Under Chapter 237, Montana Session Laws, 1961)

1. Carroll H. Stanley of Stone Cascade  
(Name of Appropriator) (Address) (Town)  
County of Cascade State of Montana  
have appropriated groundwater according to the Montana laws in effect prior to January 1, 1962, as follows:



17 1/4 Sec. 6 T. 17 R. 2 E

Indicate point of appropriation and place of use, if possible. Each small square represents 10 acres.

2. The beneficial use on which the claim is based live stock watering and domestic use
3. Date or approximate date of earliest beneficial use; and how continuous the use has been 1941/42  
constant
4. The amount of groundwater claimed (in miner's inches or gallons per minute) 1000 gpm
5. If used for irrigation, give the acreage and description of the lands to which water has been applied and name of the owner thereof not usually used for irrigation
6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal by jet pump
7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater not available
8. The depth of water table 10/17
9. So far as it may be available, the type, size and depth of each well or the general specifications of any other works for the withdrawal of groundwater not available
10. The estimated amount of groundwater withdrawn each year 200,000 gal
11. The log of formations encountered in the drilling of each well if available not available
12. Such other information of a similar nature as may be useful in carrying out the policy of this act, including reference to book and page of any county record not available

Signature of Owner Carroll H. Stanley

Date 16 DEC 1963

Three copies to be filed by the owner with the County Clerk and Recorder of the county in which the well is located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; Duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology, and Quadruplicate for the Appropriator.

K 2511

STATE OF MONTANA, } ss.  
County of Cascade.

I hereby certify that the within in-  
strument was filed in this office on

DEC 16 1963

at 2:41 o'clock PM

**J. L. LENNON**

County Clerk and Recorder.

by [Signature]  
Deputy.

File No.

DUPLICATE

T 18 N R 2 E

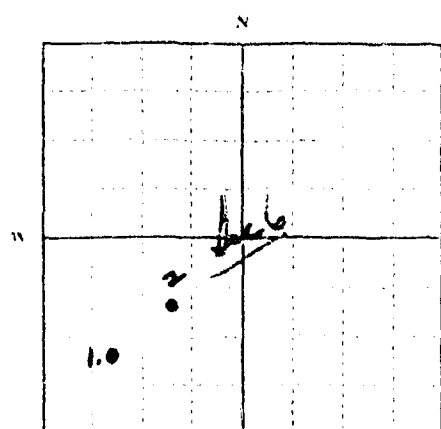
County Cascade

STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
OFFICE OF STATE ENGINEER

# Declaration of Vested Groundwater Rights

(Under Chapter 237, Montana Session Laws, 1961)

**Gail F. Fraunhofer**  
1. **Omar C. Fraunhofer** of **Cascade**  
(Name of Appropriator) (Address) (Town)  
County of **Cascade** State of **Montana**  
have appropriated groundwater according to the Montana laws in effect prior to January 1, 1962, as follows:



#1 - SWSW Sec. 6  
#2 - NE 1/4 SW Sec. 6 T18 NR. 2 E  
Indicate point of appropriation  
and place of use, if possible. Each  
small square represents 10 acres.

2. The beneficial use on which the claim is based **Well #1 - house use, watering stock and irrigating garden and lawn; Well #2 - watering stock**
3. Date or approximate date of earliest beneficial use; and how continuous the use has been **Both wells first used in 1909 and have been used continuously since.**
4. The amount of groundwater claimed (in miner's inches or gallons per minute) **Each well 10 gallons per minute**
5. If used for irrigation, give the acreage and description of the lands to which water has been applied and name of the owner thereof **Well #1 used for irrigation of garden and lawn in area adjacent to well on land owned by appropriators.**
6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal **In Well #1 water withdrawn by electric pump; in Well #2 water withdrawn by hand pump.**
7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater **Wells were completed in 1909**
8. The depth of water table **Well #1 is 55' deep; Well #2 is 35' deep.**
9. So far as it may be available, the type, size and depth of each well or the general specifications of any other works for the withdrawal of groundwater **Well #1 is 30" in diameter; Well #2 has a 5" casing, is 35' deep and water is within 15' of the surface of the ground.**
10. The estimated amount of groundwater withdrawn each year **over 50,000 gallons from each well.**
11. The log of formations encountered in the drilling of each well if available **not available**
12. Such other information of a similar nature as may be useful in carrying out the policy of this act, including reference to book and page of any county record **none**

Signature of Owner **Gail F. Fraunhofer**

Date **December 27, 1963**

Three copies to be filed by the owner with the County Clerk and Recorder of the county in which the well is located.

Please answer all questions. If not applicable, so state; otherwise the form will be returned.

Original to the County Clerk and Recorder; Duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology; and Quaduplicate for the Appropriator

27909



3971

STATE OF MONTANA  
County of \_\_\_\_\_

I hereby certify that the above  
described \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_ 9108 \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_ A.C. Hall \_\_\_\_\_  
Deputy

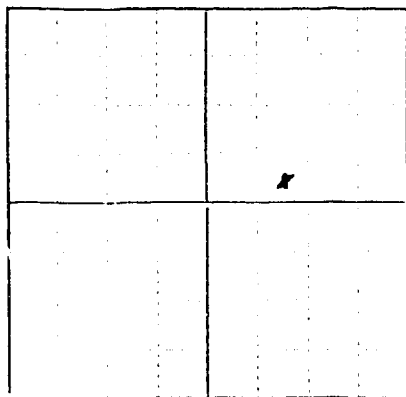
File No.

DUPLICATE

T 18 R 2 East  
County CascadeSTATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
OFFICE OF STATE ENGINEER

## Declaration of Vested Groundwater Rights

(Under Chapter 237, Montana Session Laws, 1961)

1. Aiken B. Simpson of RIE Cascade  
(Name of Appropriator) (Address) (Town)County of Cascade State of Montana  
have appropriated groundwater according to the Montana laws in effect prior to January 1, 1962, as follows: $\frac{1}{4}$  Sec. 9 T. 18 R. 2EIndicate point of appropriation  
and place of use, if possible. Each  
small square represents 10 acres.

2. The beneficial use on which the claim is based *General farm use*
3. Date or approximate date of earliest beneficial use; and how continuous the use has been *October 1943; continuous.*
4. The amount of groundwater claimed (in miner's inches or gallons per minute) *20 gallons per minute*
5. If used for irrigation, give the acreage and description of the lands to which water has been applied and name of the owner thereof *not applicable*
6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal *by electric pump.*
7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater *Oct 10, 1943 - Oct 17, 1943*
8. The depth of water table *56 ft.*
9. So far as it may be available, the type, size and depth of each well or the general specifications of any other works for the withdrawal of groundwater *a drilled well, 5 inch casing, 56 ft. deep.*
10. The estimated amount of groundwater withdrawn each year *50,000 gallons*
11. The log of formations encountered in the drilling of each well if available *not available*
12. Such other information of a similar nature as may be useful in carrying out the policy of this act, including reference to book and page of any county record *none*

Signature of Owner

Date

Three copies to be filed by the owner with the County Clerk and Recorder of the county in which the well is located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; Duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology; and Quadruplicate for the Appropriator.

21314

1. The first part of the document is a list of names and titles, including "The Hon. Mr. Justice" and "The Hon. Mr. Justice".

J. L. Thompson

File No.

DUPLICATE

15. R. S. East

County Cascade

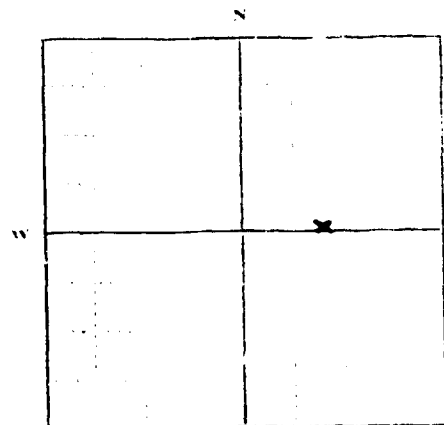
STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
OFFICE OF STATE ENGINEER

10-1-1964  
1964

Notice of Completion of Groundwater Appropriation  
Without Well

Under Chapter 237 Montana Session Laws, 1961

Date of Appropriation of Groundwater 1928  
Owner A. B. Simpson Address Cascade, Mont  
Contractor (if any) NONE  
Address of Contractor NONE  
Date Started 1928 Date Completed 1928



Sec. 7, T. 19, R. 2E  
Indicate point of appropriation  
and place of use, if possible.

Describe means of obtaining groundwater without a well "as by  
sub-irrigation and other natural processes". Include depth to  
water when applicable. a natural running  
spring

Quantity of water developed and used with explanation of method  
used to measure or estimate such amount. If use is intermittent

estimate approximate lengths of periods of use 2 gallons  
a minute used 6 months a year  
for me and doubled amount  
spring used 6 months a year

Signature of Owner A. B. Simpson  
Date Dec 31 1963

This form to be prepared by contractor (if any), otherwise by the owner.

Three copies of this notice are to be filed with the County Clerk and Recorder of the county in which the  
works are located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; duplicate to the State Engineer; Triplicate to the Montana  
Bureau of Mines and Geology and Quadruplicate for the Appropriator.

434

RECORDED  
TIME 1102 AM  
DOCUMENT NO.

J. L. LEANON  
CLERK AND DEPUTY  
CASCADIA COUNTY, OREGON

BY J. L. Leanon  
DEPUTY

File No. \_\_\_\_\_

T. 18 R. 2E

DUPLICATE

County CASCADE

STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
OFFICE OF STATE ENGINEER

**Notice of Completion of Groundwater Appropriation  
Without Well**

(Under Chapter 237 Montana Session Laws, 1961)

Date of Appropriation of Groundwater 1890

Owner G. MARIE EVANS Address STIMNIS

Contractor (if any) NONE

Address of Contractor \_\_\_\_\_

Date Started 12/27/63 Date Completed 12/27/63

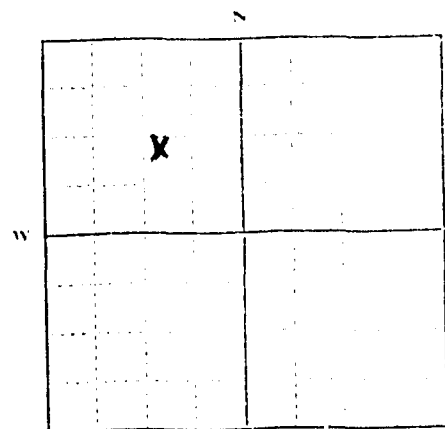
Describe means of obtaining groundwater without a well "as by sub-irrigation and other natural processes". Include depth to water when applicable. SUB-IRRIGATION OF GRAZING LANDS, SPRING UNCOVERED AND 2 INCH PIPE AND STOCK WATERERS INSTALLED. SPRING FILLS WATERERS CONTINUOUSLY.

Quantity of water developed and used with explanation of method used to measure or estimate such amount. If use is intermittent

estimate approximate lengths of periods of use CONTINUOUS USE OF 5 GAL. / MIN. FOR STOCK WATER. AND MEASURED BY USE OF BUCKET AND WATCH.

Signature of Owner G. Marie Evans

Date 12/27/63



SE NW 9 T. 18 R. 2E

Indicate point of appropriation and place of use, if possible.

This form to be prepared by contractor (if any), otherwise by the owner.

Three copies of this notice are to be filed with the County Clerk and Recorder of the county in which the works are located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology and Quadruplicate for the Appropriator.

3860

STATE OF MONTANA, ) ss.  
County of Cascade.

I hereby certify that the within  
instrument was filed in this office  
DEC 27 1963

at 229 <sup>Date</sup> of 1963

**J. L. LENN**  
County Clerk and Ex-Officio

By J. J. O'Chun <sup>Date</sup>

File No. \_\_\_\_\_

T. 18 R. 2E

DUPLICATE

County CASCADE

STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
OFFICE OF STATE ENGINEER

Notice of Completion of Groundwater Appropriation  
Without Well

Under Chapter 237 Montana Session Laws, 1961

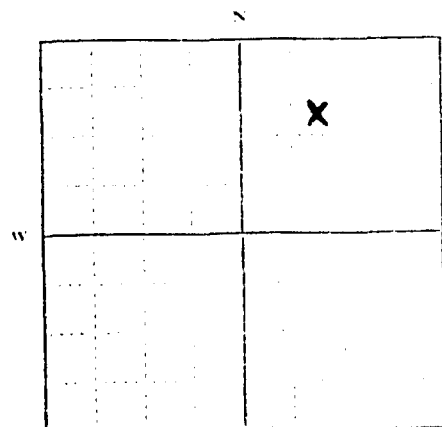
Date of Appropriation of Groundwater 1898Owner G. MARIE EVANS Address SIMMSContractor (if any) NONE

Address of Contractor \_\_\_\_\_

Date Started 2/27/63 Date Completed 12/27/63Describe means of obtaining groundwater without a well "as by sub-irrigation and other natural processes". Include depth to water when applicable. SUB-IRRIGATION OFALL GRADING LAND. SPRINGUNCOVERED AND 2 INCH PIPEAND STOCK WATERERS INSTALLED,SPRING KEEPS WATERER FULL  
CONTINUOUSLY.

Quantity of water developed and used with explanation of method used to measure or estimate such amount. If use is intermittent

estimate approximate lengths of periods of use. \_\_\_\_\_

CONTINUOUS USE OF 5 GAL/MIN.FOR STOCK WATER ANDMEASURED BY BUCKETIN CONJUNCTION WITH WARCH.Signature of Owner G. Marie EvansDate 12/27/63NW NE 9 Sec. 9 T. 18 R. 2E

Indicate point of appropriation and place of use, if possible.

This form to be prepared by contractor (if any), otherwise by the owner.

Three copies of this notice are to be filed with the County Clerk and Recorder of the county in which the works are located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology and Quadruplicate for the Appropriator.



3862

STATE OF MONTANA, } ss.  
County of Cascade

I hereby certify that the within in-  
strument was filed in this office on

DEC 27 1962

at 231

By *[Signature]*

File No.

DUPLICATE

T 1. R 2E

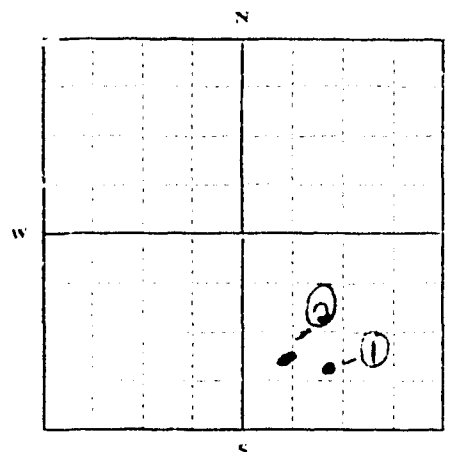
County Cascade

STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
OFFICE OF STATE ENGINEER

# Declaration of Vested Groundwater Rights

(Under Chapter 237, Montana Session Laws, 1961)

1. John Evelyn Hoevar of Milligan Rte., Great Falls  
(Name of Appropriator) (Address) (Town)  
County of Cascade State of Montana  
have appropriated groundwater according to the Montana laws in effect prior to January 1, 1962, as follows:



SW 1/4 Sec. 13 T. 1 S. R. 2 E

Indicate point of appropriation and place of use, if possible. Each small square represents 10 acres.

2. The beneficial use on which the claim is based Home and Livestock
3. Date or approximate date of earliest beneficial use; and how continuous the use has been  
Well # 1. 1942 continuous  
Well # 2. 1925 continuous but improved
4. The amount of groundwater claimed (in miner's inches or gallons per minute) Well #1., 20 gal. per minute  
Well #2., 5 gal. per minute
5. If used for irrigation, give the acreage and description of the lands to which water has been applied and name of the owner thereof  
Garden and lawn 1/4 acre in SW 1/4 NW Sec. 13 T18 R2E
6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal  
Pump by electric pump
7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater  
Well # 1 - 1942 - 1943  
Well # 2 - 1925
8. The depth of water table Well # 1 - 37ft. Well # 2 - 7ft.
9. So far as it may be available, the type, size and depth of each well or the general specifications of any other works for the withdrawal of groundwater  
Well # 1 - drilled 89ft. 8in. casing 52ft. water. Well # 2 5in. casing driven 18 ft. with 11 ft. of water varying by the rise and fall of the Smith River.
10. The estimated amount of groundwater withdrawn each year Well #1 - 75,000 gal.  
Well #2 - 50,000 gal.
11. The log of formations encountered in the drilling of each well if available  
Well # 1 - Helena  
Well # 2 - not recorded
12. Such other information of a similar nature as may be useful in carrying out the policy of this act, including reference to book and page of any county record

Signature of Owner

John Hoevar

Date Dec. 30, 1953

Three copies to be filed by the owner with the County Clerk and Recorder of the county in which the well is located

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; Duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology, and Quadruplicate for the Appropriator.

38605

4/6/20

Q50 5 1983

450

h. F. Angell  
Deputy.

File No.

T 10 R 22

DUPLICATE

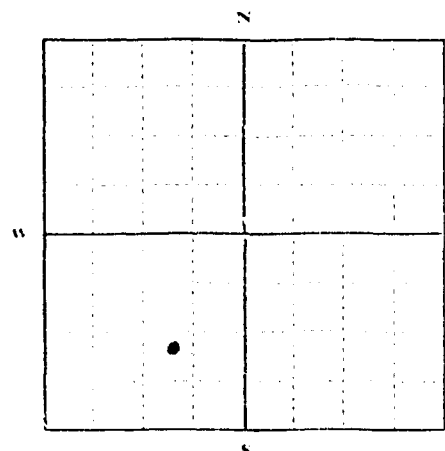
County Cascade

STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
OFFICE OF STATE ENGINEER

# Declaration of Vested Groundwater Rights

(Under Chapter 257, Montana Session Laws, 1961)

1. John Evelyn Rosevar, of Hillman, Great Falls  
(Name of Appropriator) (Address) (Town)  
County of Cascade State of Montana  
have appropriated groundwater according to the Montana laws in effect prior to January 1, 1962, as follows:



NW 1/4 Sec. 15T. 18R. 2E

Indicate point of appropriation and place of use, if possible. Each small square represents 10 acres.

2. The beneficial use on which the claim is based  
Livestock
3. Date or approximate date of earliest beneficial use; and how continuous the use has been 1906 to 1952 home and livestock since livestock in the fall and spring
4. The amount of groundwater claimed (in miner's inches or gallons per minute) 10 gal. per minute
5. If used for irrigation, give the acreage and description of the lands to which water has been applied and name of the owner thereof
6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal  
windmill and pump
7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater 1906
8. The depth of water table 50 ft.
9. So far as it may be available, the type, size and depth of each well or the general specifications of any other works for the withdrawal of groundwater  
dug 57 ft. cribbed with rock
10. The estimated amount of groundwater withdrawn each year 30,000 gal.
11. The log of formations encountered in the drilling of each well if available None
12. Such other information of a similar nature as may be useful in carrying out the policy of this act, including reference to book and page of any county record

Signature of Owner

John Rosevar  
Date Dec. 30, 1963

Three copies to be filed by the owner with the County Clerk and Recorder of the county in which the well is located

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; Duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology, and Quadruplicate for the Appropriator.

28604

4619

DEC 31 1968

4491/2

By h. F. Frazett  
Deputy.

File No. **11(9)**

DUPLICATE

**T. 22N. R. 3W. MPM**

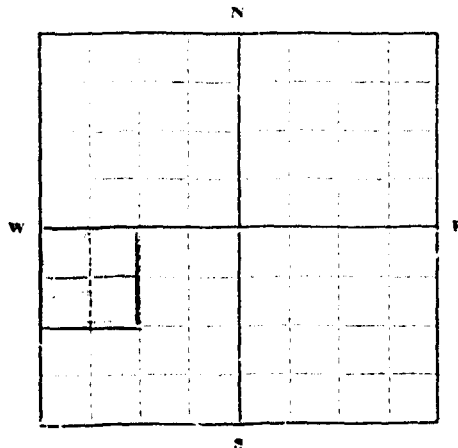
County **Cascade**

STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
OFFICE OF STATE ENGINEER

**Declaration of Vested Groundwater Rights**

(Under Chapter 237, Montana Session Laws, 1961)

1. **United States of America** of **c/o U. S. Corps of Engineers**  
(Name of Appropriator) of **Box 1425, Great Falls, Montana**  
(Address) (Town)  
County of **Cascade** State of **Montana**  
have appropriated groundwater according to the Montana laws in effect prior to January 1, 1962, as follows:



**NW 1/4 SW 1/4 Sec. 15 T18N R22W MPM**

Indicate point of appropriation  
and place of use, if possible.  
Each small square represents 10  
acres.

2. The beneficial use on which the claim is based. **Domestic use**
3. Date or approximate date of earliest beneficial use; and how continuous the use has been. **27 October 1960**  
**Continuous use**
4. The amount of groundwater claimed (in miner's inches or gallons per minute). **2 gallons per minute**
5. If used for irrigation, give the acreage and description of the lands to which water has been applied and name of the owner thereof. **None**
6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal. **Vertical lift pump**
7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater. **Started - 28 September 1960**  
**Completed - 27 October 1960**
8. The depth of water table. **455 feet**
9. So far as it may be available, the type, size and depth of each well or the general specifications of any other works for the withdrawal of groundwater. **Drilled vertical well - 1907 feet**
10. The estimated amount of groundwater withdrawn each year. **2880 ~~gallons~~ gallons**
11. The log of formations encountered in the drilling of each well if available. **Shale, bentonite, sandstone and siltstone of various types**
12. Such other information of a similar nature as may be useful in carrying out the policy of this act, including reference to book and page of any county record.

UNITED STATES OF AMERICA  
By **John E. Ritchie, Act. Chief**  
Signature of Owner **Great Falls Real Estate Ofc**  
Date **USCE, Seattle District**  
Date **11/1/60**

Three copies to be filed by the owner with the County Clerk and Recorder of the county in which the well is located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology, and Quadruplicate for the Appropriator.

#3108

STATE OF MONTANA  
County of Cascade

Wherefore it is that the within in-  
strument was filed in my office on

MAY 4 - 1962

at 10:40 A.M.

J. L. FENNON

County Clerk and Recorder

By

*B. J. [Signature]*

Deputy.

1. The first group of authors (Barnes, 1980; Berman, 1984; Berman & ...)

Continued . . .

15-00000

Under Chapter 237, Montana Session Laws, 1961:

<p>1. <i>Chlorophyll a</i> (Chl a) content was determined using a spectrophotometer (Shimadzu UV-1601) at 663 nm. The absorbance was converted to concentration using a standard curve.</p>	<p>2. <i>Chlorophyll b</i> (Chl b) content was determined using a spectrophotometer (Shimadzu UV-1601) at 646 nm. The absorbance was converted to concentration using a standard curve.</p>
<p>3. <i>Carotenoid</i> content was determined using a spectrophotometer (Shimadzu UV-1601) at 440 nm. The absorbance was converted to concentration using a standard curve.</p>	<p>4. <i>Protein</i> content was determined using a protein assay kit (Bio-Rad) and a spectrophotometer (Shimadzu UV-1601) at 595 nm. The absorbance was converted to concentration using a standard curve.</p>

Indicate point of appropriation and place of use, if possible. Each small square represents 10 acres.

- Signature of Owner: William A. Smith

Date Dec 22 1965

Three copies to be filed by the owner with the County Clerk and Recorder of the county in which the well is located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; duplicate to the State Engineer, Triplicate to the Montana Bureau of Mines and Geology, and Quadruplicate for the Appropriator.

1-051



3725

STATE OF MONTANA, } ss.  
County of Cascade.

I hereby certify that the within in-  
strument was filed in this office on

DEC 23 1901

405

Book P M

J. J. BROWN

Notary Public

B. Lien

Deputy

File No. \_\_\_\_\_

T 18 N. R 2 E.

DUPLICATE

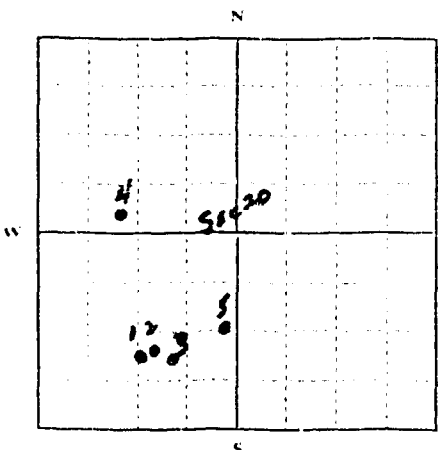
County Cascade

STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
OFFICE OF STATE ENGINEER

# Declaration of Vested Groundwater Rights

(Under Chapter 237, Montana Session Laws, 1961)

Gail F. Fraunhofer and  
1. Oscar C. Fraunhofer of Cascade  
(Name of Appropriator) (Address) (Town)  
County of Cascade State of Montana  
have appropriated groundwater according to the Montana laws in effect prior to January 1, 1962, as follows:



1/4 Sec. 20 T. 18 N. 2 E.

Indicate point of appropriation and place of use, if possible. Each small square represents 10 acres.

- #1 - SE 1/4 SW 1/4 - Sec. 20  
#2 - SE 1/4 SW - Sec. 20  
#3 - SE 1/4 SW 1/4 - Sec. 20  
#4 - SW 1/4 NW 1/4 - Sec. 20  
#5 - SE 1/4 SW - Sec. 20

7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater. Well #1 - 1950; Well #2 - 1903; Well #3 - 1917; Well #4 - 1906; Well #5 - 1904.

8. The depth of water table. Well #1 - 105' deep; Well #2 - 75' deep; Well #3 - 32' deep; Well #4 - 21' deep; Well #5 - 18' deep.

9. So far as it may be available, the type, size and depth of each well or the general specifications of any other works for the withdrawal of groundwater. Well #1 - 105' deep, 8" casing, water within 50' of surface of ground; Well #2 - 75' deep; 6" casing, water within 55' of surface of ground; Well #3 - 32' deep; 4" in diameter, water 26' from surface of ground; Well #4 - 21' deep, diameter of 9", water within 4' of surface of ground; Well #5 - 18' deep, 4 1/2" in diameter, water within 3' from surface of ground.

10. The estimated amount of groundwater withdrawn each year. Wells #1 and 2 - over 50,000 gallons per year; Wells #3, 4, and 5 - over 25,000 gallons per year.

11. The log of formations encountered in the drilling of each well if available. Not available.

12. Such other information of a similar nature as may be useful in carrying out the policy of this act, including reference to book and page of any county record. None.

Signature of Owner *Gail F. Fraunhofer*

Date

December 27, 1963.

Three copies to be filed by the owner with the County Clerk and Recorder of the county in which the well is located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; Duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology, and Quadruplicate for the Appropriator.

227'0

3922

STATE OF MONTANA, } ss.  
County of Cascade.

I hereby certify that the within in  
document was filed in this office on

at 9:07 o'clock A. M.

**J. L. LENNON**

County Clerk and Recorder.

By A. C. Michael  
Deputy.

File No. ....

DUPLICATE

T. 18 R. 2E

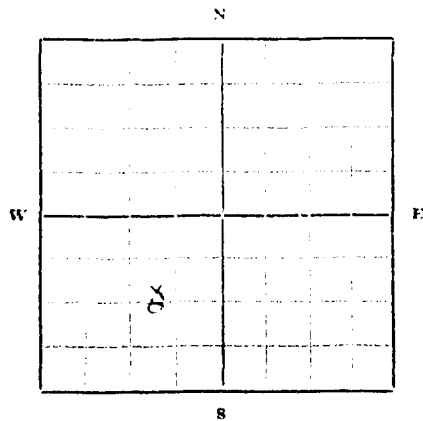
County: Cascade

STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
OFFICE OF STATE ENGINEER

**Declaration of Vested Groundwater Rights**

(Under Chapter 237, Montana Session Laws, 1961)

Stephen Carlton Fair R. Carlton of Cascade  
(Name of Appropriator) (Address) (Town)  
County of Cascade State of Montana  
have appropriated groundwater according to the Montana laws in effect prior to January 1, 1962, as follows:



SW 1/4 Sec. 21 T. 18 R. 2E

Indicate point of appropriation  
and place of use, if possible.  
Each small square represents 10  
acres.

2. The beneficial use on which the claim is based free  
single tank water use
3. Date or approximate date of earliest beneficial use; and how continuous the use has been since Sept 15 - 1954  
Yosemite of the year
4. The amount of groundwater claimed (in miner's inches or gallons per minute) 5 gallons
5. If used for irrigation, give the acreage and description of the lands to which water has been applied and name of the owner thereof None
6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal by Pumping System
7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater Aug 15 - 1963 Completed Sept 15 - 1963
8. The depth of water table 40 ft
9. So far as it may be available, the type, size and depth of each well or the general specifications of any other works for the withdrawal of groundwater 72 ft
10. The estimated amount of groundwater withdrawn each year 800000  
net
11. The log of formations encountered in the drilling of each well not available
12. Such other information of a similar nature as may be useful in carrying out the policy of this act, including reference to book and page of any county record None

Signature of Owner Stephen Carlton

Date Dec 1 - 1963

Three copies to be filed by the owner with the County Clerk and Recorder of the county in which the well is located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology and Quadruplicate for the Appropriator.

1108

#3469

STATE OF MONTANA,  
County of Cascade

I hereby certify that the foregoing  
instrument was filed in the office of the  
Recorder of Deeds.

at

Bozeman, Montana  
County of Cascade

By

J. L. Leman

File No.

T R

DUPLICATE

County

STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
OFFICE OF STATE ENGINEER

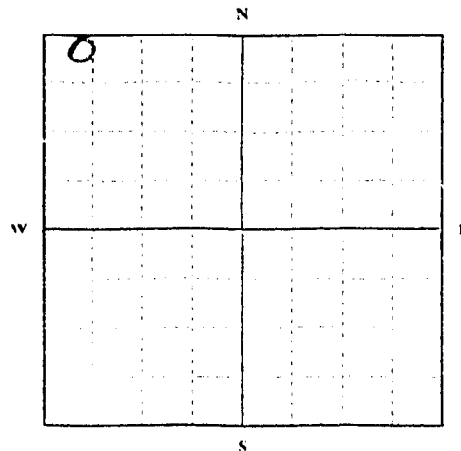
### Declaration of Vested Groundwater Rights

(Under Chapter 237, Montana Session Laws, 1961)

1. Robert W. Gruel et al. of 3230 4th Ave. So. Great Falls  
(Name of Appropriator) (Address) (Town)

County of CascadeState of Montana

have appropriated groundwater according to the Montana laws in effect prior to January 1, 1962, as follows:



N  $\frac{1}{4}$  NE Sec 27 T.15 N R.2 E

Indicate point of appropriation and place of use, if possible. Each small square represents 10 acres.

2. The beneficial use on which the claim is based Stock house irrigation
3. Date or approximate date of earliest beneficial use; and how continuous the use has been 1900 daily
4. The amount of groundwater claimed (in miner's inches or gallons per minute) 20 gal per min
5. If used for irrigation, give the acreage and description of the lands to which water has been applied and name of the owner thereof  
5 acres  
Robert W. Gruel et al.
6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal pump
7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater 1900
8. The depth of water table 15 feet
9. So far as it may be available, the type, size and depth of each well or the general specifications of any other works for the withdrawal of groundwater unavailable
10. The estimated amount of groundwater withdrawn each year 200 gal
11. The log of formations encountered in the drilling of each well if available unavailable
12. Such other information of a similar nature as may be useful in carrying out the policy of this act, including reference to book and page of any county record unknown

Signature of Owner

Date

Robert W. Gruel  
1/27/63

Three copies to be filed by the owner with the County Clerk and Recorder of the county in which the well is located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; Duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology, and Quadruplicate for the Appropriator.

28096

4110

STATE OF MONTANA, } ss.  
County of Cascade.

I hereby certify that the within in-  
strument was filed in this office on  
Dec 24 1903

at 204 o'clock P. M.

**J. L. LEYNNON**  
County Clerk and Recorder.

By [Signature]  
Deputy.

Developed after January 1, 1962

Please answer all questions. If not applicable, so state, otherwise the form may be returned.

(Elev. above sea level)

51 Show exact depth of bottom



5596

STATE OF MONTANA, }  
County of Cascade.

I hereby certify that the within in-  
strument was filed in my office on

JUL 23 1973

at 4:30 P.M.

J. L. T. N.  
County Clerk - Cascade

By R. B. Butler  
Deputy

3  
File No. \_\_\_\_\_

Approved Stock Form State Publishing Co., Helena, Montana-41317

DUPLICATE

T. \_\_\_\_\_ R. \_\_\_\_\_  
County \_\_\_\_\_

STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
OFFICE OF STATE ENGINEER

RECEIVED  
JAN 9 1964

Notice of Completion of Groundwater Appropriation  
Without Well

(Under Chapter 237 Montana Session Laws, 1961)

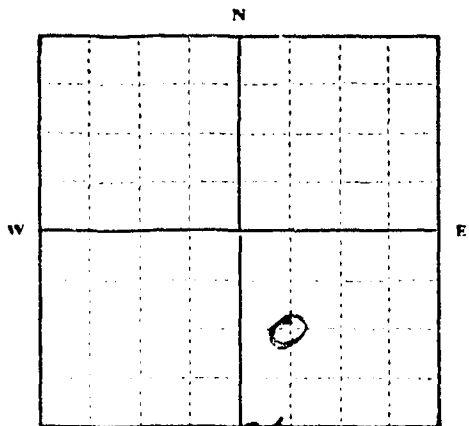
Date of Appropriation of Groundwater 1890  
Owner Robert W Gruel Address 3230 4th Ave So Great Falls

Contractor (if any) NONE

Address of Contractor \_\_\_\_\_

Date Started \_\_\_\_\_ Date Completed \_\_\_\_\_

Describe means of obtaining groundwater without a well "as by sub-irrigation and other natural processes". Include depth to water when applicable. Flowing Well



SW  $\frac{1}{4}$  SE 26 Sec. 18 T. 18N R. 2E

Indicate point of appropriation and place of use, if possible.

Quantity of water developed and used with explanation of method used to measure or estimate such amount. If use is intermittent

estimate approximate lengths of periods of use. Stock water

Signature of Owner Robert W. Gruel

Date 12/27/63

This form to be prepared by contractor (if any), otherwise by the owner.

Three copies of this notice are to be filed with the County Clerk and Recorder of the county in which the works are located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology and Quadruplicate for the Appropriator.

3108'

41045

STATE OF NEW YORK  
County of \_\_\_\_\_  
I, \_\_\_\_\_  
SHERIFF of said County, do hereby certify that \_\_\_\_\_  
is a \_\_\_\_\_

SEP 30 1962

159

P

*[Handwritten signature]*

GW

STATE OF MONTANA, DEPARTMENT OF MINES AND GEOLOGY, DIVISION OF WATER RESOURCES

File No. \_\_\_\_\_

T. 13 R. 2E

DUPLICATE

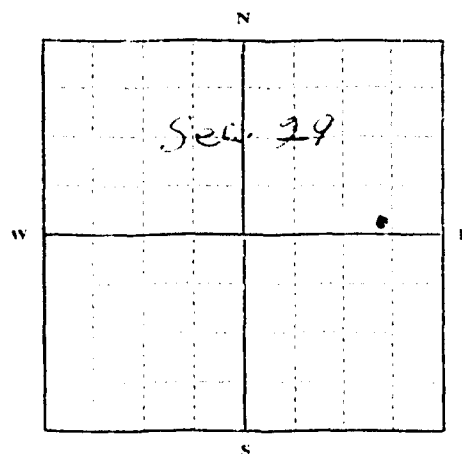
County

STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
OFFICE OF STATE ENGINEER

**Declaration of Vested Groundwater Rights**

(Under Chapter 237, Montana Session Laws, 1961)

1. Robert O. Johnson, of Cascade, (Name of Appropriator) (Address) (Town)  
County of Cascade State of Montana  
have appropriated groundwater according to the Montana laws in effect prior to January 1, 1962, as follows:



1/4 Sec 29 T. 13 R. 2E

Indicate point of appropriation and place of use, if possible. Each small square represents 10 acres.

2. The beneficial use on which the claim is based  
Household use, Stock water and irrigation
3. Date or approximate date of earliest beneficial use; and how continuous the use has been. There are ~~two~~ two wells, 1904 and 1917 both have been used continuously
4. The amount of groundwater claimed (in miner's inches or gallons per minute). 10 gallon
5. If used for irrigation, give the acreage and description of the lands to which water has been applied and name of the owner thereof. Small garden and lawn at well description
6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal. Electric water system
7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater. 1904 and 1917
8. The depth of water table. Around 20 feet each well
9. So far as it may be available, the type, size and depth of each well or the general specifications of any other works for the withdrawal of groundwater. Both wells 30 feet deep and 6 inch in diameter.
10. The estimated amount of groundwater withdrawn each year. 240,000
11. The log of formations encountered in the drilling of each well if available. Heavy soil to bottom and rock bottom in each well
12. Such other information of a similar nature as may be useful in carrying out the policy of this act, including reference to book and page of any county record. None that I know of.

Signature of Owner

Robert O. Johnson  
Date Dec. 28 - 1962

Three copies to be filed by the owner with the County Clerk and Recorder of the county in which the well is located

Please answer all questions. If not applicable, so state; otherwise the form will be returned

Original to the County Clerk and Recorder; Duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology; and Quadruplicate for the Appropriator

28134

4146

STATE OF MICHIGAN  
COUNTY OF CLATSOP  
I, the undersigned, a duly qualified and sworn justice of the peace in and for the County of Clatsop, State of Oregon, do hereby certify that the within and foregoing is a true and correct copy of the original as the same appears from the records of said County, this 30th day of December, 1962.

2:43 Clerk 8  
J. L. LERNER  
County Clerk and Receiver  
57 82  
Dea. 1962

GW

File No.

DUPLICATE

Township and Range

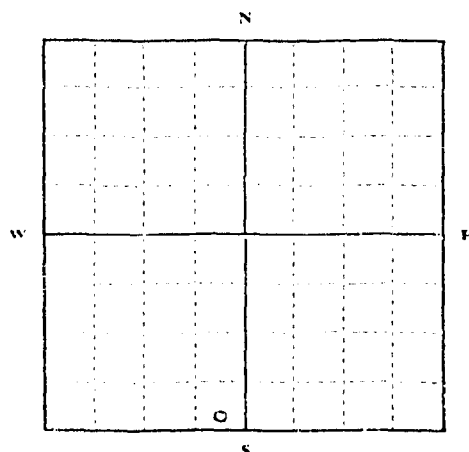
County

STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
OFFICE OF STATE ENGINEER

Declaration of Vested Groundwater Rights

(Under Chapter 237, Montana Session Laws, 1961)

1. E. E. Edmonson of Blackstone Apts., Great Falls  
(Name of Appropriator) (Address) (Town)  
County of Cascade State of Montana  
have appropriated groundwater according to the Montana laws in effect prior to January 1, 1962, as follows:



SE 1/4 SW 1/4 Sec. 29 T. 18 N. R. 2 E

Indicate point of appropriation and place of use, if possible. Each small square represents 10 acres.

2. The beneficial use on which the claim is based. Domestic and Stock Water

3. Date or approximate date of earliest beneficial use; and how continuous the use has been. 1912 - Continuous

4. The amount of groundwater claimed (in miner's inches or gallons per minute). Not Applicable

5. If used for irrigation, give the acreage and description of the lands to which water has been applied and name of the owner thereof. Not Applicable

6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal. Electric Pump over drilled well

7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater. 1912 - Drilled & Completed

8. The depth of water table. 60 feet

9. So far as it may be available, the type, size and depth of each well or the general specifications of any other works for the withdrawal of groundwater. One 60-foot, 6-inch drilled well

10. The estimated amount of groundwater withdrawn each year. 18,000 gallons

11. The log of formations encountered in the drilling of each well if available. Not Available

12. Such other information of a similar nature as may be useful in carrying out the policy of this act, including reference to book and page of any county record. None

Signature of Owner. E. E. Edmonson

Date. December 9, 1963

Three copies to be filed by the owner with the County Clerk and Recorder of the county in which the well is located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; duplicate to the State Engineer; Triuplicate to the Montana Bureau of Mines and Geology, and Quaduplicate for the Appropriator.

7603

# 3464

STATE OF MONTANA, } ss.  
County of Cascade. }

I hereby certify that the within instrument was filed in this office on  
DEC 9 - 1963

at 3:47 o'clock P. M.

**J. L. LENNON**  
County Clerk and Recorder.

By - [Signature] -  
Deputy.

File No. \_\_\_\_\_

T 18 N. R 2 E.

DUPLICATE

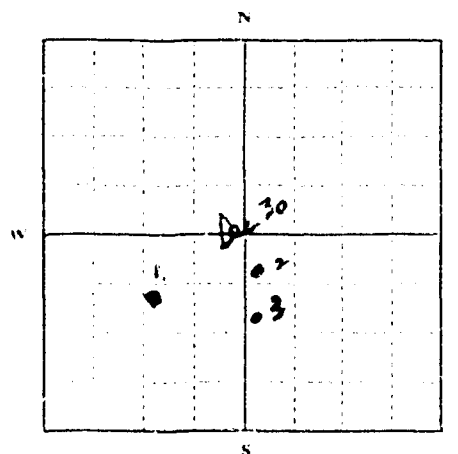
County Cascade

STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
OFFICE OF STATE ENGINEER

# Declaration of Vested Groundwater Rights

(Under Chapter 237, Montana Session Laws, 1961)

Gail F. Fraunhofer and  
1. Omar C. Fraunhofer of Cascade  
(Name of Appropriator) (Address) (Town)  
County of Cascade State of Montana  
have appropriated groundwater according to the Montana laws in effect prior to January 1, 1962, as follows:



1/4 Sec. 30 T.18N R. 2 E.

Indicate point of appropriation and place of use, if possible. Each small square represents 10 acres.

#1 - NW 1/4 - Sec. 30  
#2 - NW 1/4 - Sec. 30  
#3 - NW 1/4 - Sec. 30

2. The beneficial use on which the claim is based Wells # 1, 2, and 3  
all used for watering stock.

3. Date or approximate date of earliest beneficial use; and how continuous the use has been Well #1 - 1916; Well #2 - 1912;  
Well #3 - 1934.

4. The amount of groundwater claimed (in miner's inches or gallons per minute) Well #1 - 3 gal. per minute; #2 - 15 gal.  
per min. #3 - 15 gal. per min.

5. If used for irrigation, give the acreage and description of the lands to which water has been applied and name of the owner thereof  
Used for watering stock only.

6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal all cylinder  
pumps.

7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater well #1 - 1916; Well #2 - 1912; Well #3 - 1934.

8. The depth of water table Well #1 - 38' deep, water within 28' of surface of ground; #2 -  
35' deep, water 4' from surface of ground; #3 - 32' deep, water within 8' of surface.

9. So far as it may be available, the type, size and depth of each well or the general specifications of any other works for the withdrawal of groundwater Well #1 - 4' in diameter, 38' deep and water within  
28' of surface of ground; #2 - 35' deep, 4' in diameter, water within 4' of surface of  
ground; #3 - 32' deep, 5' in diameter, water within 8' of surface of ground.

10. The estimated amount of groundwater withdrawn each year over 25,000 gallons per year for  
each well.

11. The log of formations encountered in the drilling of each well if available Not available.

12. Such other information of a similar nature as may be useful in carrying out the policy of this act, including reference to book and page of any county record None.

Signature of Owner Gail F. Fraunhofer and Omar C. FraunhoferDate December 27, 1963.

Three copies to be filed by the owner with the County Clerk and Recorder of the county in which the well is located

Please answer all questions. If not applicable so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; Duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology, and Quadruplicate for the Appropriator



3923

2.10.4

A. C. Richard

GW

File No. ....

DUPLICATE

T 18 NR 2 E.

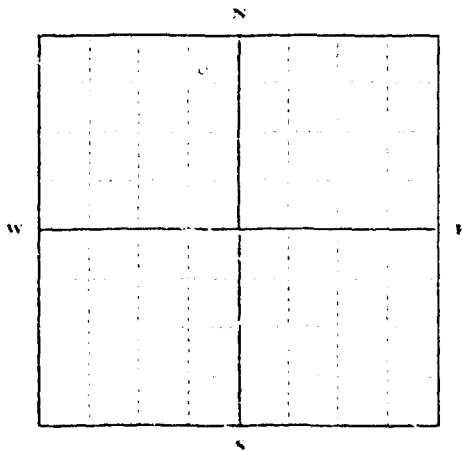
County Cascade

STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
OFFICE OF STATE ENGINEER

**Declaration of Vested Groundwater Rights**

(Under Chapter 237, Montana Session Laws, 1961)

1. E. E. Edmonson of Blackstone Apts., Great Falls  
(Name of Appropriator) (Address) (Town)  
County of Cascade State of Montana  
have appropriated groundwater according to the Montana laws in effect prior to January 1, 1962, as follows:



NE 1/4 NW 1/4 Sec. 32 T. 18 NR. 2 E.

Indicate point of appropriation  
and place of use, if possible.  
Each small square represents 10  
acres.

2. The beneficial use on which the claim is based Domestic and Stock Water
3. Date or approximate date of earliest beneficial use; and how continuous the use has been 1912 Continuous
4. The amount of groundwater claimed (in miner's inches or gallons per minute) Not Applicable
5. If used for irrigation, give the acreage and description of the lands to which water has been applied and name of the owner thereof Not Applicable
6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal Electric Pump over drilled well
7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater 1912 -- Drilled & Completed
8. The depth of water table 60 feet
9. So far as it may be available, the type, size and depth of each well or the general specifications of any other works for the withdrawal of groundwater One 60-foot, 6" drilled well
10. The estimated amount of groundwater withdrawn each year 18,000 gallons
11. The log of formations encountered in the drilling of each well if available Not Available
12. Such other information of a similar nature as may be useful in carrying out the policy of this act, including reference to book and page of any county record None

Signature of Owner E. E. Edmonson

Date December 9, 1963

Three copies to be filed by the owner with the County Clerk and Recorder of the county in which the well is located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology, and Quaduplicate for the Appropriator.

8-3-16-2

STATE OF MONTANA, } ss.  
County of Cascade.

I hereby certify that the within in-  
strument was filed in this office on

DEC 9 - 1963

at 3:45 <sup>date</sup> o'clock <sup>P</sup> M.

**J. L. LENNON**

County Clerk and Recorder.

By [Signature]  
Deputy.

GW

File No. \_\_\_\_\_

T. 18 N. R. 2 E.

DUPLICATE

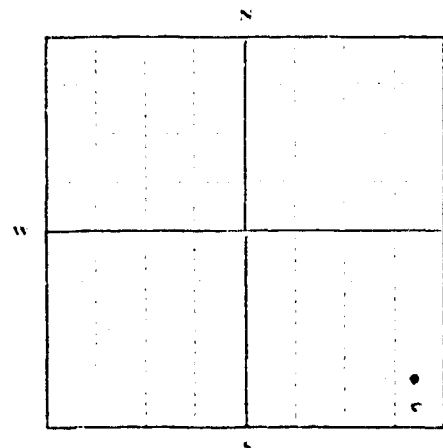
County, Cascade

STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
OFFICE OF STATE ENGINEER

**Declaration of Vested Groundwater Rights**

(Under Chapter 237, Montana Session Laws, 1961)

1. E. E. Edmonson of Blackstone Apts., Great Falls, Montana  
(Name of Appropriator) (Address) (Town)  
County of Cascade State of Montana  
have appropriated groundwater according to the Montana laws in effect prior to January 1, 1962, as follows:



SE 1/4 Sec. 32 T18N R2E

Indicate point of appropriation  
and place of use if possible.  
Each small square represents 10  
acres.

2. The beneficial use on which the claim is based Stock and Domestic Water
3. Date or approximate date of earliest beneficial use; and how continuous the use has been 1956 Continuous since that time
4. The amount of groundwater claimed (in miner's inches or gallons per minute) Not Applicable
5. If used for irrigation, give the acreage and description of the lands to which water has been applied and name of the owner thereof Approximately 1 acre garden in SE 1/4 SE 1/4
6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal Electric pump on both wells in the SE 1/4 SE 1/4

7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater Two wells drilled in 1956 and both completed in 1956.

8. The depth of water table 115 feet.

9. So far as it may be available, the type, size and depth of each well or the general specifications of any other works for the withdrawal of groundwater. One 100-foot well, 6" drilled  
One 115-foot well, 6" drilled

10. The estimated amount of groundwater withdrawn each year 73,000 gallons.

11. The log of formations encountered in the drilling of each well if available Not Available

12. Such other information of a similar nature as may be useful in carrying out the policy of this act, including reference to book and page of any county record None

Signature of Owner E. E. Edmonson

Date December 9, 1963

Three copies to be filed by the owner with the County Clerk and Recorder of the county in which the well is located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology; and Quadruplicate for the Appropriator.

† 346<sup>3</sup>

STATE OF MONTANA, )  
County of Cascade. ) ss.

I hereby certify that the within instrument was filed in this office on  
DEC 9 - 1963

at Billings on the 9th day of December 1963

**J. L. LENNON**  
County Clerk and Recorder

by J. L. Lennon  
Deputy

File No.

Township

DUPLICATE

County

STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
OFFICE OF STATE ENGINEER

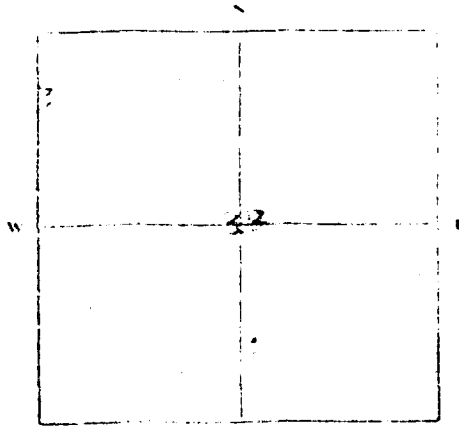
RECEIVED  
JUN 6 1963

Declaration of Vested Groundwater Rights STATE ENGINEER

Under Chapter 247, Montana Session Laws, 1961

I, \_\_\_\_\_ of \_\_\_\_\_  
Name of Appropriator Address (Town)

County of \_\_\_\_\_ State of \_\_\_\_\_  
have appropriated groundwater according to the Montana laws in effect prior to January 1, 1962, as follows:



SW 1/4 Sec 33 T. 44 R. 2 E.

Indicate point of appropriation  
and place of use if possible.  
Each small square represents 10  
acres.

2. The beneficial use on which the claim is based \_\_\_\_\_

3. Date or approximate date of earliest beneficial use, and how con-  
tinuous the use has been \_\_\_\_\_

4. The amount of groundwater claimed (in miner's inches or gallons  
per minute) \_\_\_\_\_

5. If used for irrigation, give the acreage and description of the lands  
to which water has been applied and name of the owner thereof \_\_\_\_\_

6. The means of withdrawing such water from the ground and the  
location of each well or other means of withdrawal \_\_\_\_\_

7. The date of commencement and completion of the construction of the well, wells, or other works for with-  
drawal of groundwater \_\_\_\_\_

8. The depth of water table \_\_\_\_\_

9. So far as it may be available, the type, size and depth of each well or the general specifications of any other  
works for the withdrawal of groundwater \_\_\_\_\_

10. The estimated amount of groundwater withdrawn each year \_\_\_\_\_

11. The log of formations encountered in the drilling of each well if available \_\_\_\_\_

12. Such other information of a similar nature as may be useful in carrying out the policy of this act, including  
reference to book and page of any county record \_\_\_\_\_

Signature of Owner \_\_\_\_\_

Date \_\_\_\_\_

Three copies to be filed by the owner with the County Clerk and Recorder of the county in which the well is  
located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; duplicate to the State Engineer; Triplicate to the Montana Bureau  
of Mines and Geology; and Quadruplicate for the Appropriator.

3366

SEP 3 - 1942  
1:45 P.  
100-111111  
H. C. [Signature]

File No.

TIC 10 R 100

DUPLICATE

County

STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
OFFICE OF STATE ENGINEER

RECEIVED  
1963 DEC 30  
STATE ENGINEER

**Notice of Completion of Groundwater Appropriation  
Without Well**

(Under Chapter 237 Montana Session Laws, 1961)

Date of Appropriation of Groundwater March 1927  
William H. Brattain (land or)  
Owner Rosella Brattain Address Cascade, Montana

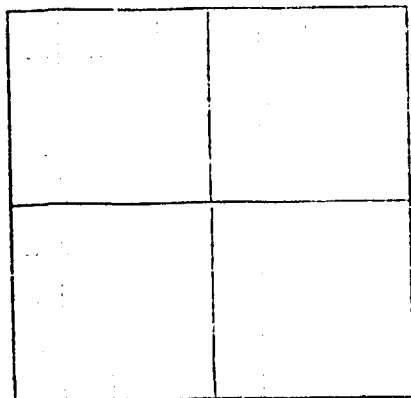
Contractor (if any) NONE

Address of Contractor

Date Started Date Completed

Describe means of obtaining groundwater without a well "as by  
sub-irrigation and other natural processes". Include depth to  
water when applicable.

Natural Springs



comes out in both quarters  
NE 1/4 Sec. 35 T. 1 N. R. 2 E.  
Indicate point of appropriation  
and place of use, if possible.

Quantity of water developed and used with explanation of method  
used to measure or estimate such amount. If use is intermittent

estimate approximate lengths of periods of use.

Used the year around for stock water

Signature of Owner Rosella Brattain

Date December 30, 1963

This form to be prepared by contractor (if any), otherwise by the owner.

Three copies of this notice are to be filed with the County Clerk and Recorder of the county in which the  
works are located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; duplicate to the State Engineer; Triplicate to the Montana  
Bureau of Mines and Geology and Quadruplicate for the Appropriator.



4282

CLERK AND RECORDER  
CASCADE COUNTY, OREGON  
I HEREBY CERTIFY THAT THE WITHIN  
INSTRUMENT WAS FILED FOR RECORD  
IN THIS OFFICE ON

AT 10:25 9<sup>AM</sup>  
AND DULY RECORDED.

NO.

J. L. LUNDEN  
CLERK

BY [Signature]

h. f. 4

4381  
BUSI CC 080

4597

1572

Original to the Montana Department of Natural Resources and Conservation, Helena, Montana. Duplicate to the Montana Bureau of Mines and Geology, and a copy to the State Engineer, Helena, Montana.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Three copies to be filed by the owner with the County Clerk and Recorder of the county in which the well is located.

Signature of Owner: *Albert Young*  
Date: December 30, 1963

12. Such other information of a similar nature as may be useful in carrying out the policy of this act, including reference to book and page of any county record.

11. The log of formations encountered in the drilling of each well if available. Not available

10. The estimated amount of groundwater withdrawn each year. 10,000 gallons per day.

9. So far as it may be available, the type, size and depth of each well or the general specifications of any other works for the withdrawal of groundwater. 72 feet deep well.

8. The depth of water table. Thirty (30) feet

7. The date of commencement and completion of the construction of the well, wells, or other works for withdrawal of groundwater. Prior to 1930

6. The means of withdrawing such water from the ground and the location of each well or other means of withdrawal. Electric Pump well and windmill.

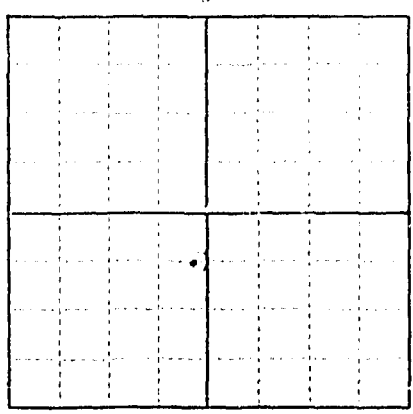
5. If used for irrigation, give the acreage and description of the lands to which water has been applied and name of the owner thereof. Not applicable

4. The amount of groundwater claimed (in miner's inches or gallons per minute). 10,000 gallons per day.

3. Date or approximate date of earliest beneficial use, and how continuous the use has been. Prior to 1930

2. The beneficial use on which the claim is based. Domestic Use and Livestock.

1. Name of Appropriator: Albert Young  
Address: Milligan Route, Great Falls, Montana  
State of Montana  
County of Cascade  
have appropriated groundwater according to the Montana laws in effect prior to January 1, 1962, as follows:



NW 1/4 Sec. 36 T. 18 N. R. 2 E.  
Indicate point of appropriation and place of use, if possible. Each small square represents 10 acres.

# Declaration of Vested Groundwater Rights

(Under Chapter 237, Montana Session Laws, 1961)

STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
OFFICE OF STATE ENGINEER  
JAN 9 1964  
STATE ENGINEER

APPLICANT: File No. \_\_\_\_\_  
COUNTY: Cascade  
T. 18 N. R. 2 E.  
Approved State Form - State Printing Co., Helena, Montana - 42734

## GROUNDWATER INDEX

Page 1 of 1

County \_\_\_\_\_ Twp. \_\_\_\_\_ Rge. \_\_\_\_\_

Sec.	Name of Appropriator	Type of Form	County File No.	Remarks
1	Magallon, Rosa M.	3	4541	
2	Hargrove, E. L.	3	4642	
3	Hargrove, E. L.	3	4643	
3	Hargrove, E. L.	3	4644	
4	Hargrove, E. L.	3	4645	
5	Hargrove, E. L.	3	4646	
6	Hargrove, E. L.	3	4647	
7	Hargrove, E. L.	3	4648	
8	Hargrove, E. L.	3	4649	
10	Magallon, Rosa M.	3	4542	
10	Magallon, Rosa M.	4	4543	
10	Hargrove, E. L.	4	4646	
11	Magallon, Rosa	4	4543	
11	Magallon, Rosa	3	4542	
12	Hatchler, Kirby	4	4742	
12	Hatchler, Kirby	4	4746	
12	Hatchler, Kirby	4	4747	
15	Hargrove, E. L.	3	4642	
18	Hargrove, E. L.	4	4646	
18	Hargrove, E. L.	3	4642	
18	Hargrove, E. L.	3	4646	
19	Hargrove, E. L.	4	4647	
19	Hargrove, E. L.	3	4641	
20	Hargrove, E. L.	3	4642	
21	Hargrove, E. L.	3	4642	
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30	Hargrove,			

## GROUNDWATER INDEX

Page 2 of 2

County Adams Twp. 1 Rge. 11

[illegible]

File No. \_\_\_\_\_

T. 18 N. R. 4 E

DUPLICATE

County Cascade

STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
OFFICE OF STATE ENGINEER

1964

Notice of Completion of Groundwater Appropriation  
Without Well

(Under Chapter 237 Montana Session Laws, 1961)

Date of Appropriation of Groundwater 1964

Owner Rose M. Mapston Address Steele

Contractor (if any) \_\_\_\_\_

Address of Contractor \_\_\_\_\_

Date Started Spring Date Completed Don't know

Describe means of obtaining groundwater without a well "as by sub-irrigation and other natural processes". Include depth to water when applicable.

Spring

Quantity of water developed and used with explanation of method used to measure or estimate such amount. If use is intermittent

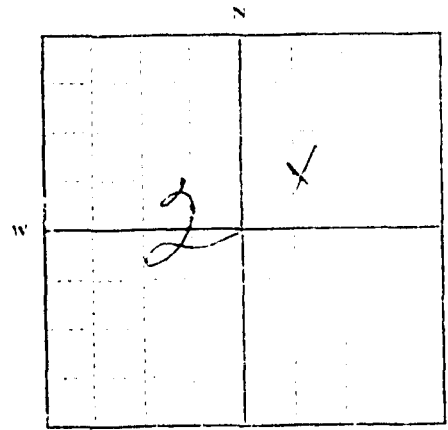
estimate approximate lengths of periods of use.

Continuous use for Cattle

89 gals per min

Signature of Owner Rose M. Mapston

Date 12/3/63



71 E 1/4 Sec. 2 T. 18 N. R. 4 E

Indicate point of appropriation and place of use, if possible.

This form to be prepared by contractor (if any), otherwise by the owner.

Three copies of this notice are to be filed with the County Clerk and Recorder of the county in which the works are located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology and Quadruplicate for the Appropriator.

4544

CLERK AND RECORDER  
OF THE DISTRICT COURT  
OF THE DISTRICT OF COLUMBIA  
I HEREBY CERTIFY THAT THE ABOVE  
INSTRUMENT WAS FILED FOR RECORD  
IN THIS OFFICE ON

Dec 21, 63

AT 2:58 P.M.  
AND DULY TESTED AND ATTESTED

My Commission Expires

L. L. LENNON  
DEPUTY CLERK

JK

T. 12 N. R. 45

County Cascade

DE 186

**Appropriation**

(Under Chapter 237 Montana Session Laws, 1961)

Dec 30, 1963

SS. Stockert

Unknown

Apr 1956

Date Completed *Dec 1956*

Depth  
its water

50' Face  
3' down  
OUT OF  
MINO.  
9' down  
surface

### Method

tent

1/4 Sec. 2 T 18 N R 4 E  
Indicate point of appropriation  
and place of use, if possible.

1

4 times and bracket  
C. Hoff and C. Hanger

Date Dec 30, 1963

2545

2545

2545

2545



4060

RECORDED

11/15 P.

A.C. Reck

File No.

DUPLICATE

T. 18 R. 4E

County. Cascade

STATE OF MONTANA  
ADMINISTRATOR OF GROUNDWATER CODE  
OFFICE OF STATE ENGINEER

Notice of Completion of Groundwater Appropriation  
Without Well

(Under Chapter 237 Montana Session Laws, 1961)

Reservoir 9/1955  
Springs 3/4/1947

Owner. Loretta A. Wirtala Address. Sand Coulee

Contractor (if any) Norman Young - Dean Young

Address of Contractor Sand Coulee

Date Started. 9/1954 Date Completed. 12/1954

Describe means of obtaining groundwater without a well "as by sub-irrigation and other natural processes". Include depth to water when applicable. 2 springs- Depth one to five feet

Reservoir - 5 feet to 15 feet

Quantity of water developed and used with explanation of method used to measure or estimate such amount. If use is intermittent

estimate approximate lengths of periods of use. Depends on time of year. Two springs and one reservoir. Used for watering stock during spring and summer months.

NW 1/4 Sec. 3 T18 R4E

Indicate point of appropriation and place of use, if possible.

Signature of Owner Loretta A. Wirtala

Date. 12-19-65

This form to be prepared by contractor (if any), otherwise by the owner.

Three copies of this notice are to be filed with the County Clerk and Recorder of the county in which the works are located.

Please answer all questions. If not applicable, so state, otherwise the form will be returned.

Original to the County Clerk and Recorder; duplicate to the State Engineer; Triplicate to the Montana Bureau of Mines and Geology and Quadruplicate for the Appropriator.

5609  
STATE OF MONTANA, }  
County of Cascade }

I hereby certify that the within in-  
strument was filed in this office on

Date  
at 10:26 o'clock A.M.

J. L. FENNEN  
County Clerk and Recorder

By *[Signature]*  
Deputy